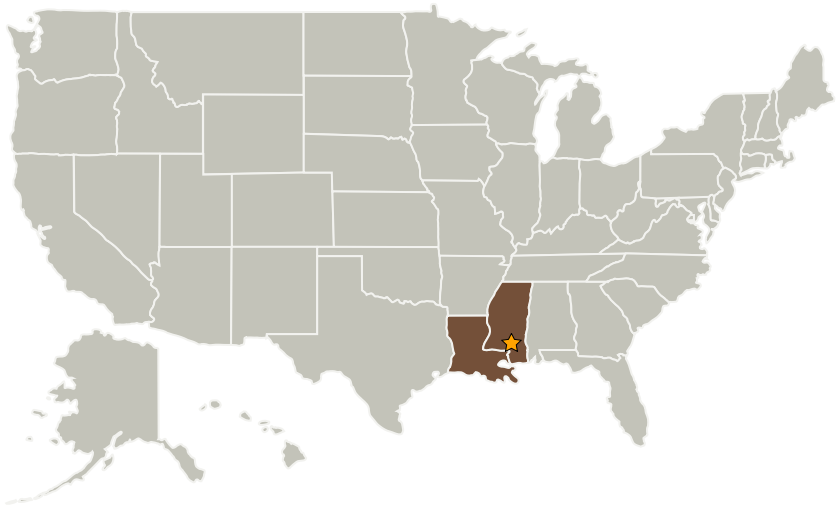
Algorithms and Software Architecture for the Production of Information Products From LIDAR, Phase II

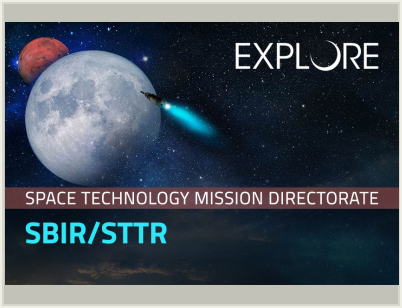
Completed Technology Project (2006 - 2008)

Project Introduction

Diamond Data Systems (DDS) proposes the development of a new advanced architecture, algorithms and software to support the end-to-end processing of LIDAR data to derive useful information products such as Digital Elevation Models (DEM). The approach is innovative in three ways. First, it proposes a complete end-to-end system instead of a solution that addresses only a single step of the complex problem of accurately gathering, processing, and reporting of the data. Second, it proposes a system that is designed to minimize human interaction and manual data entry. Third (and possibly the most important) is that it proposes both the implementation of multiple algorithms to perform the data processing, as well as an extensible, open software architecture which allows algorithms to be incorporated into the system in the future. This approach allows for the development of a dynamic system which can be extended not only by DDS, but by third parties as well. Our proposal is relevant to topic E3.03 in that it provides for the efficient production of a DEM product from an active imaging system (LIDAR).

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Stennis Space Center (SSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
Diamond Data Systems	Supporting Organization	Industry	New Orleans, Louisiana

Primary U.S. Work Locations	
Louisiana	Mississippi

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.4 Information Processing
    - TX11.4.2 Intelligent Data Understanding